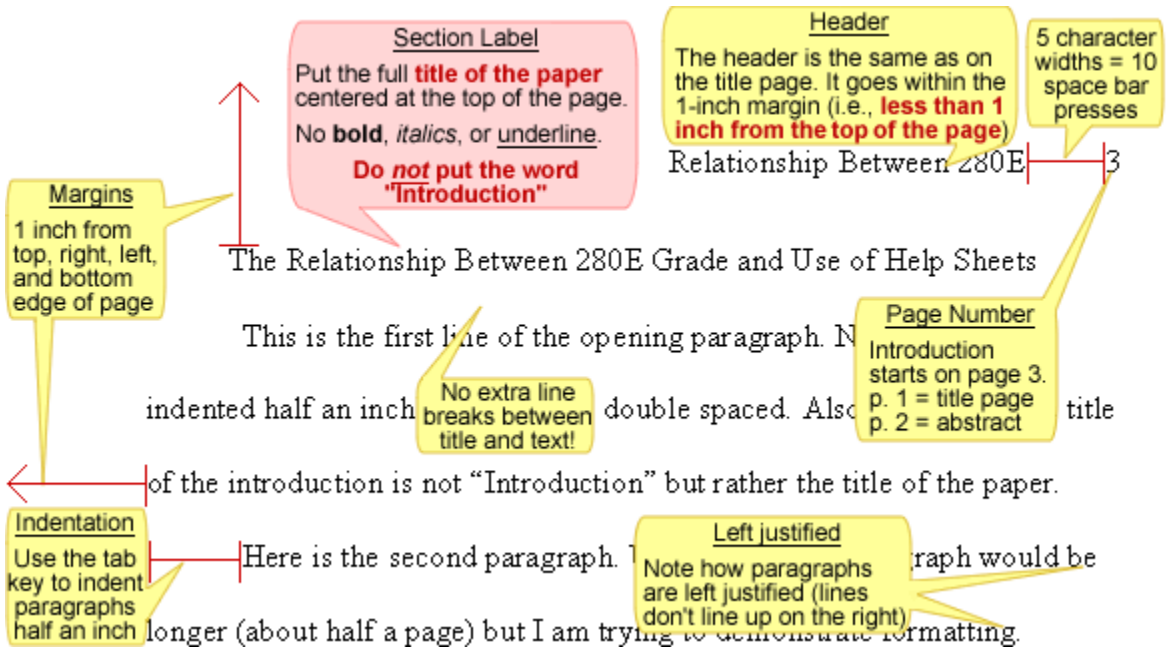
How to Write an Introduction

Note: This document is taken from the Psychology 280E Lab WebCT pages and was written by Rhys Lewis, 280E lab coordinator

General format



Opening paragraph

Start with a broad perspective

- Discuss area of investigation and its importance.
  e.g., If studying the relationship between extraversion and performance in teams, the opening paragraph might state how personality impacts one's relationships.
- Even though it starts broad, avoid the temptation to ramble! As always, each sentence should have a purpose in developing your point.

Get more specific

- By the last sentence, or by the beginning of the next paragraph, you should be focusing on your specific topic (e.g., defining the phenomena under investigation).
- Do not mention details of your study! You generally do not mention your study until the end of the introduction.

Appropriate Length

- Anywhere from several lines to half a page is an appropriate length.

Marks. You are being graded on:

1. Starting with an appropriately broad perspective *and*
2. Getting to the point of the your study without rambling

Rationale for why the Independent Variable should affect the Dependent Variable (i.e., coverage of relevant theory)

What does "providing a rationale" mean?

- You must explain why you think the independent variable will affect the dependent variable in the way you expect.
- In other words, give one or more potential mechanisms through which the independent variable has its effects.

Where in the introduction section should you provide the rationale?

- It's typically done in detail once somewhere in the body paragraphs (e.g., while or after reviewing the review/theory article).
- It could, but does not have to directly follow after the opening paragraph.
- After explaining the rationale in detail, you will have to briefly (in a sentence or two) review the rationale when stating your hypotheses (at the very end of the introduction).

When the phenomenon/theory under investigation has a name

- If there is a name given to the phenomenon (e.g., the misinformation effect) or an explicit theory of why the IV affects the DV, give the name of the phenomenon or theory, define it, state who coined it, and most importantly, explain why people think it occurs.

Example of a good rationale

- The following example explains why extraversion is expected to affect team performance. Notice how the example makes it clear how extraversion is influencing people in teams to perform better.

  e.g., Several authors have found that frequent communication is central to effective teamwork (give citations). These authors point out how teams that communicate frequently are better able to coordinate efforts among team members (give citation), keep on track for deadlines (give citation), and motivate one another to achieve team goals (give citation). One of the defining components of extraversion is that extraverts communicate more than non-extraverts (give citations). It follows that teams composed mostly of extraverts should communicate more, and thus perform better than non-extraverted teams.

Don't ignore competing or superseding theories

- Often there are numerous potential reasons for a phenomenon or relationship.
- Over time, competing explanations arise, and sometimes earlier theories are even superseded (encompassed and surpassed) by theories developed later.

- You don't have to review every theory ever proposed on the topic. At the same time, it's wrong to only provide one account when you know there are potentially better explanations available. Remember: you're trying to help the reader understand why the phenomenon/relationship occurs.

Marks. You are being graded on:

1. Whether you've made a sufficient attempt at explaining the underlying rationale
2. Whether your reasoning is logically sound (i.e., premises correct, conclusions follow from premises, and no steps missing)
3. Whether the wording of your explanations are clear/understandable
4. Whether you've ignored important competing or more comprehensive explanations

Appropriate review of previous literature

Purpose

- When writing a paper, each article you talk about is chosen for a reason. Typically, you would choose to describe an article in order to achieve one of the following:

    1. *Review the history of research into your study's area*. For example, you might describe the first article to investigate the phenomenon, then review key developments since then that are relevant to your study.

    2. *Defend your hypotheses*. For example, you might explain what someone found and why they think they found it. This (a) reviews the literature while (b) explaining the rationale behind your hypotheses, and/or (c) helps defend your prediction of finding something similar.

    3. *Defend the design of your study*. Your study might be designed to use the procedures of previous research because those procedures have been proven effective. Alternatively, another study might have identified a confound that you will control for. Yet another possibility is that you have discovered a weakness of previous studies that yours will overcome.

- Try to fulfill one of the above purposes in your review of each article. Without a reason to describe the articles, your review will read as nothing but a purposeless list of studies.

Required information

- You need 3 pieces of information in your review of each article. Expect to lose a mark each time you fail to include on of the following:

    1. *Purpose*. What were they trying to investigate or show?
    2. *Methods*. How did they go about accomplishing their purpose? (participants/procedure)
    3. *Results*. What did they find?

- Stating purpose/methods/results should only take **a sentence or two**.

- *Avoid going into unnecessary details!* The reader does not need a full account of the other study. It is very rare that you need to review a study in depth.

- Example review of purpose/methods/results:
  So-and-so (year) gave a chocolate consumption survey to 300 people to determine which gender ate more chocolate. Contrary to the author's expectations, there was no difference.

Choosing what information to present on each study

- Present the details most relevant to accomplishing your purpose of including that study in your review.

Comprehensiveness of review

- You need to describe the background literature behind each of your hypotheses before your literature review can be considered complete.
- You need to defend your hypotheses and design somehow, and this is almost always done using previous research.

Try to make connections

- Try to identify connections between studies to make transitions between paragraphs smoother.
- One of the things you are being graded on is organization/flow of introduction. Having transition sentences and logical connections between paragraphs helps to establish this organization/flow. But be warned: having strong connections takes a lot of planning!

Marks. You are being graded on:

1. Whether you remembered to include the purpose, methods, and results for each study you reviewed
2. Your ability to limit yourself to describing only the relevant details of each study
3. The comprehensiveness of the review (as defined above), and
4. Whether your description of each study was clear and correct.

Description of how past research lead to current study

The purpose of your study is going to be either to:

1. Replicate past findings by utilizing/refining methods of previous studies, or to
2. Add to knowledge by improving upon limitations of previous research.

   A third possibility that doesn't often arise in 280E is to
3. Investigate a topic that has not yet received attention.

In all cases, you *must identify similarities/differences in the methods used by past research* (compared to yours) to frame the purpose and predictions of your study.

Remember to...

- Explain how methodological similarities should yield similar results, or how an improvement in methods will add new knowledge to the field.

- Be sure to explain why the similarities/differences you identify are important. Many similarities/difference are irrelevant! (e.g., use of undergraduates is a bad similarity/difference to talk about, unless the participant sample is explained as affecting results.)

Be specific!

- Specific connections are better than generals ones.

- e.g., The fact that both you and some previous authors studied the same phenomenon is a bad similarity (too general).

- e.g., The fact that previous authors used the same (or a similar) measure as you is a better connection (it helps establish the validity of your measure).

Marks. You are being graded on:

1. Whether you've identified at least one way in which past research contributed to the purpose, predictions, and design of your current study
2. Whether you've made it clear that similarities in methods should lead to replications in results, or that improvements will add new contributions
3. The quality of your explanation for why the identified similarities/differences are important.

Definition of key terms

Terminology and acronyms

- You must define any terminology and acronyms that a naive reader may not understand immediately before or after using that term.
  (acronym = word formed from the initial letters of a name. e.g., WAC for Women's Army Corps)

- Defining terminology is typically best done as those terms arise, though it may be a good idea to define a central term early (e.g., "the misinformation effect" when the whole introduction will talk about that phenomenon).

- Avoid listing numerous definitions all in one place. That is too awkward.

Operational definitions of independent and dependent variables

- Near the end of the introduction (in the last 2 or 3 paragraphs), you must operationally define the independent and dependent variables

- operational definition = define the variables in terms of how they will be measured

- *Example*: For the purposes of this study, memory will be defined as the number of words correctly remembered after a 10 minute delay.

Marks. You are being graded on:

1. Whether you have remembered to define all terminology and acronyms immediately before/after using them.
2. Whether you have **operationally** defined the independent and dependent variables.
3. Numerous definitions not given all at once
4. Clarity and correctness of definitions

Rationale behind hypotheses is clear

- Near the end of the introduction (after the literature review, but before stating the hypotheses in terms of the operational definitions), you need to briefly review the rationale underlying the hypotheses.

- *(Re)state the theoretical rational* for why the independent variable should affect the dependent variable.
    - If you've already given the rationale, this will be a brief (one or two sentence) reminder.
    - If you haven't already given the rationale, do so now!

- *(Re)state the empirical rationale* for your hypotheses.
    - If you've already explained how similarities/differences to past research helped frame your predictions, this will be a brief (one or two sentence) reminder.
    - If you haven't already explained your predictions using past research, do so now!

- It is not enough to say that "from the review of previous research, we can expect that..." or "based on theory we can expect that..." The connections must be explicit.

Marks. You are being graded on:

1. Clarity of your theoretical rationale.
2. Clarity of your empirical rationale.

Hypotheses stated correctly

- The last thing you say in the introduction needs to be a clear statement of the hypotheses.

- Hypotheses must be stated in terms of the operational definitions of the independent and dependent variables (i.e., in terms of how those variables will be measured).

- *Example*: People bonked on the head 5 times are expected to remember fewer words than people not bonked on the head. In other words, bonking should be negatively related to memory.

Marks. You are being graded on:

1. Whether hypotheses are stated in terms of the operational definitions.
2. Clarity of hypothesis statements.
3. Whether statements of hypotheses are correct.
4. Whether you included all the hypotheses (don't forget any!).

Organization/flow of introduction

Connections between paragraphs

- Think of how paragraphs might connect so that you can flow from one idea into the next. Making ideas flow linearly requires a lot of planning and foresight.

- Having transition sentences between paragraphs is a good start. However, even the best transition sentence is no substitute for real organization (in which one idea/paragraph really does lead into the next).

Don't give details about your study too early

- Talking about your study throughout the literature review will likely be very awkward. It sounds choppy/disorganized to constantly jump between describing your study and previous ones. It's not wrong, but it's very hard to do right.

- Typically one doesn't mention any details about the current study until very late in the introduction (when one starts to make methodological connections to previous literature).

Framing your study

- Ultimately the purpose of the introduction is to frame the current study. That is, you review relevant research on the topic, develop the need for your study, and defend your hypotheses.

- It's possible to meet all the technical requirements of an introduction (e.g., list the 6 studies provided to you) without really doing a good job of framing your study. Try to keep in mind the ultimate purpose: you're doing all this so that the reader will understand and be interested in your study!

Marks. You are being graded on:

1. Whether ideas flow linearly from one paragraph to the next (e.g., not just listing studies).
2. The degree to which the introduction section helps to frame the current study rather than just describe a list of previous literature.

Putting it all together: Choosing an order of presentation

No right way

- There's no "right" way to order all the information you need to give. However, there are common ways that seem to work.

Suggestion 1 (just a suggestion! Feel free to break it in places it if it isn't working)

1. Establish the importance of your topic in the opening paragraph.
2. Introduce the specific phenomenon under investigation in the second paragraph. You might define the key term (e.g., the misinformation effect).
3. Describe the seminal (first) article into the phenomenon (note: Loftus's article was the seminal article on the misinformation effect). How did those authors explain why the effect occurs (i.e., why the IV affects the DV)? If there's no seminal article, instead describe one you think serves as a good baseline.
4. Describe another study that helps clarify or refine understanding of the phenomenon. This second study might replicate the effect under different circumstances (helping to establish its robustness). Alternatively, it might offer a different (or more comprehensive) explanation for the effect.
5. Continue with the review, stating how each study helped develop understanding of the phenomenon.
6. You might save the review/meta-analysis/theoretical article for last in order to give the most recent or comprehensive explanation for the effect, describing how it expands upon the earlier explanations.
7. Next, in a separate paragraph or two, you might make a few specific connections in methodology that help establish the purpose of your study while defending your predictions and intended methods. You might note how similarities in methods (be specific in what those similarities are) should lead to a replication of the results those studies (be specific in what those results were). Notice how you didn't have to even mention your study until now!
8. Briefly (in a couple sentences) review the theoretical rationale(s) for why the IV affects the DV.
9. In the final paragraph, state operational definitions of the IV and DV, then state the hypotheses in terms of those operational definitions.

Suggestion 2

1. Establish the importance of your topic using the opening paragraph.
2. Use the review/meta-analysis to describe main findings in the field and/or further establish the prevalence of the phenomenon.

3. Give the established explanation for why the IV affects the DV.

4. Now that the overall picture and rationale is established, you might get more specific by describing several studies as characteristic of the field.

5. Introduce your study as a replication of these previous studies. i.e., you are using established methods to confirm the main findings. Briefly review what these established methods and findings are that you will be replicating. Again, notice how you didn't have to talk about your study until now.

6. One of the above replications may be in terms of how the IV and DV will be operationally defined in your study.

7. In the last paragraph, briefly review the theoretical/empirical rationale for your hypotheses before stating the hypothesis in terms of the operational definitions of the IV and DV.

<u>Suggestion 3</u>

- Find a structure that makes sense and works for you! The structure will likely depend on the topic you chose and the articles you have.
- I strongly suggest planning the flow of ideas (i.e., what is the connection between each paragraph, and can paragraphs be rearranged to have better flow) before you start writing.

How to write a Method section

Purpose

The purpose of the method section is to describe in detail how a study was conducted. Your method describes to your reader what you did and how you did it. The description you provide should be detailed enough that someone could replicate the study based solely on your description, but you should be careful not to include any irrelevant details. Please refer to the Publication Manual of the American Psychological Association for a complete listing of APA format requirements.

Appearance

- Normally, the Method section follows directly after the Introduction. It should not start on a separate page.
- The title of the section (Method) should normally appear on the first line following the Introduction.
- Only the first letter of the word Method is capitalized. The word is not underlined, bolded, or italicized.
- The title (Method) is centered.
- There are 3 sub-sections: Participants, Materials, and Procedure.
- These sub-section headings should be flush to the left.
- Sub-section headings are not followed by a period or a colon.
- Sub-section headings are italicized.
- One the first letter of each sub-section heading is capitalized.
- Each sub-section heading appears on its own line.
- The first line of text that appears under the sub-section heading is indented.
- The first thing to come under the Method title is the heading for the first sub-section.

Contents of the Method Section

Participants

- "Participants" is the new preferred term. The old term was "subjects." You can also refer to individuals, respondents, students, etc.
- You must identify your research participants (NOT by name):
    - Number of individuals, including when relevant the number of females and the number of males
    - Mean age and age range of participants
    - Any relevant demographics (e.g., university students, SES, racial background, etc.) NOTE: you must have collected these data to report them – don't guess!!!
    - Procedures for selecting participants, how they were assigned to conditions, and the number of participants assigned to each experimental condition.

    - If any participants did not complete the experiment, state how many and why.

Materials

- Include the name and brief description of any published tests used in the study. This may include the number of test items, a sample item (if the test is not copyrighted) or statistics concerning reliability, validity, and factor structure.
- If you created a questionnaire or survey, describe it here and include a sample in an Appendix.
- Include a description of any apparatus used (including brand names and operating characteristics for things like computers and monitors).

Procedure

- Provide a detailed description of what you did.
- Give only relevant details; do not include dates or times on which the procedure was performed unless this is a relevant detail. Ask yourself, "Will altering these details likely have an effect on the results?"
- Organize the procedure chronologically.
- Do not describe tests used here. That information should be in the Materials sub-section.
- Describe any methods used to control extraneous variables.